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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application: Skrzyniarz et al.)	Group Art Unit: 1771
)	
Serial No.: 09/916,779)	Examiner: Victor C. Chang
)	
Filed: July 27, 2001)	Atty. Docket No.: 1945.BDM
)	

For: FOAMED ADHESIVE AND USE THEREOF

BRIEF ON APPEAL

Commissioner for Patents
Alexandria, VA 22313-1450

Sir:

Applicants hereby appeal the decision of the Primary Examiner finally rejecting claims 12-18, 21 and 22.

A copy of the claims involved in this appeal is set forth in the *Claims appendix*.

I. Real party in interest

The real party in interest is National Starch and Chemical Investment Holding Corporation.

II. Related appeals and interferences

There are no other appeals or interferences known to applicants which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

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III. *Status of claims*

Claims 1-11, 19 and 20 have been canceled.

Claims 12-18, 21 and 22 are pending.

Claims 12-14 and 21 stand finally rejected as being anticipated by or, in the alternative, as being obvious over Karszes (U.S. Patent No. 3,891,788).

Claims 12-17, 21 and 22 stand finally rejected as being anticipated by or, in the alternative, as being obvious over Mafoti et al. (U.S. Patent No. 5,804,618).

Claim 18 stands finally rejected as being obvious over Karszes in view of Mafoti et al.

The rejection of claims 12-18, 21 and 22 is being appealed.

IV. *Status of amendments*

No amendment after final rejection was made. All amendments have been entered.

V. *Summary of the claimed subject matter*

Applicants' invention is directed to articles of manufacture comprising a wood composite bonded to a high pressure laminate. In accordance with the invention the wood composite is bonded to the high pressure laminate with a foamed polyvinyl acetate emulsion-based adhesive. Page 2, lines 11-15.

In one claimed embodiment the foamed adhesive is foamed from about 20 to about 60% by volume. Page 10, lines 3-4.

VI. Grounds of rejection to be reviewed in appeal

- A. WHETHER THE SUBJECT MATTER OF CLAIMS 12, 14 and 21 ARE ANTICIPATED BY OR, IN THE ALTERNATIVE, OBVIOUS OVER KARSZES.
- B. WHETHER THE SUBJECT MATTER OF CLAIM 13 IS ANTICIPATED BY OR, IN THE ALTERNATIVE, OBVIOUS OVER KARSZES.
- C. WHETHER THE SUBJECT MATTER OF CLAIMS 12, 14-17, 21 and 22 ARE ANTICIPATED BY OR, IN THE ALTERNATIVE, OBVIOUS OVER MAFOTI ET AL.
- D. WHETHER THE SUBJECT MATTER OF CLAIM 13 IS ANTICIPATED BY OR, IN THE ALTERNATIVE, OBVIOUS OVER MAFOTI ET AL.
- E. WHETHER THE SUBJECT MATTER OF CLAIM 18 IS OBVIOUS OVER KARSZES IN VIEW OF MAFOTI ET AL.

VIII. Argument

- A. The subject matter of claims 12, 14 and 21 are not anticipated by, or obvious over, Karszes (U.S. Patent No. 3,891,788).

Claims 12, 14 and 21 is rejected as being anticipated by or, in the alternative, as being obvious over Karszes.

The examiner urges that the use of a foamed adhesive is a process limitation that carries no patentable weight unless shown to produce a different product. It is the examiner's position that applicants' arguments that use of a foamed adhesive produce a patentable distinct product is not convincing of patentability since applicants have failed to provide factual support to the allegations presented.

Applicants disagree. Applicants submit that use of a foamed adhesive does produce a patentable distinct product.

As disclosed in the subject application, a product prepared using a foamed adhesive unexpectedly results in a product that has the same strength, yet requires less adhesive. Karszes neither discloses nor suggest that an adhesive may be foamed and used to bond a wood composite to a high pressure laminate in the manufacture of products such as, for examples countertops. A product prepared using an amount of wet adhesive is clearly different than a product prepared using an adhesive that has been foamed. The product is not only different when it is newly made, i.e. - a newly laminated product will be less wet, but will be different after the adhesive has fully dried, i.e., - the final dry product will contain less adhesive residue and will show the presence of air voids in through out the dried adhesives. Reference is made to the following disclosures set forth within the subject application:

Page 1, lines 15-16:

Aqueous liquid adhesives require significant drying times, require long set or cure times, and the water contained within them tends to swell surface and/or core materials. It is known, for example, that countertops prepared with prior art adhesives are prone to warpage. This warpage is generally due to water in the bondline and heat from the oven.

Page 3, lines 4-9:

By foaming, less water is introduced into the construction, the temperature requirements of the top heaters may be decreased, and line speed may be increased. The foamed adhesive when used in the practice of the invention has sufficient wet bond strength for holding sheets of high pressure laminate (HPL) to sheets of particle board as these panels are moved through a heating and pressing zone.

Table 1, and the disclosure on page 9, lines 6-8:

By decreasing the amount of water in the bondline, oven temperatures can be decreased, lowering cost and decreasing the potential for warpage of the product. Moreover, since the boards can be run at lower oven temperatures, use of thinner HPL is possible.

There is no disclosure in Karszes of an article comprising a wood composite and a high pressure laminate bonded together with a foamed polyvinyl acetate based adhesive. The product when newly bonded will contain less water/less adhesive - minimizing warping. The final fully dried product will comprise less adhesive residue and, upon inspection, will show the presence of air voids.

It is surprising that sufficient wet bond strength exists to form the claimed product, let alone form a product that exhibits required fiber tear attributes for end use applications.

Karszes does not teach or even suggest use of a foamed polyvinyl acetate based adhesive to bond a wood composite to a high pressure laminate. The use of a foamed adhesive does provide a different product and is of patentable weight. The claimed invention is novel and non-obvious over the disclosure of Karszes.

Reversal of the examiner's rejection of claims 12, 14 and 21 as anticipated by or as obvious over Karszes is requested.

B. The subject matter of claim 13 is not anticipated by, or obvious over, Karszes (U.S. Patent No. 3,891,788).

Claim 13 is also rejected as being anticipated by or, in the alternative, as being obvious over Karszes.

Along with claims 12, 14 and 21, the examiner urges that the subject matter of claim 13, which requires use of a foamed adhesive that is foamed from about 20 to about 60% by volume, contains a process limitation that carries no patentable weight unless shown to produce a different product. It is the examiner's position that applicants' arguments that use of a foamed adhesive produce a patentable distinct product is not convincing of patentability since applicants have failed to provide factual support to the allegations presented.

Applicants disagree. Applicants submit that use of an adhesive that has been foamed to from about 20 to about 60 % by volume does produce a patentable distinct product. As disclosed in the subject application, a product prepared using a foamed adhesive unexpectedly results in a product that has the same strength, yet requires less adhesive. Karszes neither discloses nor suggest an adhesive foamed to from about 20 to about 60 % by volume and used to bond a wood composite to a high pressure laminate in the manufacture of products such as, for examples countertops. A product prepared using an amount of wet adhesive is clearly different than a product prepared using 20 to 60 % less adhesive, e.g., using an adhesive foamed from 20 to 60 % by volume. The product is not only different when it is newly made, i.e. - a newly laminated product will be less wet, but will be different after the adhesive has fully dried, i.e., - the final dry product will contain less adhesive residue and will show the presence of air voids in through out the dried adhesives. Reference is again made to the disclosures set forth on page 1, lines 15-16, page 3, lines 4-9, Table 1, and the

disclosure on page 9, lines 6-8 of the subject application (reproduced hereinabove).

There is no disclosure in Karszes of an article comprising a wood composite and a high pressure laminate bonded together with a foamed polyvinyl acetate based adhesive that has been foamed from about 20 to about 60 % by volume. The product when newly bonded will contain less water/less adhesive - minimizing warping. The final fully dried product will comprise less adhesive residue and, upon inspection, will show the presence of air voids.

It is surprising that sufficient wet bond strength exists to form the claimed product, let alone form a product that exhibits required fiber tear attributes for end use applications.

Karszes does not teach or even suggest use of a polyvinyl acetate based adhesive foamed from about 20 to about 60 % by volume to bond a wood composite to a high pressure laminate. The use of such a foamed adhesive does provide a different product and is of patentable weight. The invention of claim 13 is novel and non-obvious over the disclosure of Karszes.

Reversal of the examiner's rejection of claim 13 as anticipated by or as obvious over Karszes is requested.

C. The subject matter of claims 12, 14-17, 21 and 22 16, 18 and 19 are not anticipated by, or obvious over, Mafoti et al. (U.S. Patent No. 5,804,618).

Claims 12, 14-17, 21 and 22 are rejected as being anticipated by or, in the alternative, as being obvious over Mafoti et al.

The examiner urges that the use of a foamed adhesive is a process limitation that carries no

patentable weight unless shown to produce a different product. It is the examiner's position that applicants' arguments that use of a foamed adhesive produce a patentable distinct product is not convincing of patentability since applicants have failed to provide factual support to the allegations presented.

Applicants disagree. Applicants submit that use of a foamed adhesive does produce a patentable distinct product.

As disclosed in the subject application, a product prepared using a foamed adhesive unexpectedly results in a product that has the same strength, yet requires less adhesive. Mafoti neither discloses nor suggest that an adhesive may be foamed and used to bond a wood composite to a high pressure laminate in the manufacture of products such as, for examples countertops. A product prepared using an amount of wet adhesive is clearly different than a product prepared using an adhesive that has been foamed. The product is not only different when it is newly made, i.e. - a newly laminated product will be less wet, but will be different after the adhesive has fully dried, i.e., - the final dry product will contain less adhesive residue and will show the presence of air voids in through out the dried adhesives. Reference is again made to the disclosures set forth on page 1, lines 15-16, page 3, lines 4-9, Table 1, and the disclosure on page 9, lines 6-8 of the subject application (reproduced hereinabove).

There is no disclosure in Mafoti of an article comprising a wood composite and a high pressure laminate bonded together with a foamed polyvinyl acetate based adhesive. The product when newly bonded will contain less water/less adhesive - minimizing warping. The final fully

dried product will comprise less adhesive residue and, upon inspection, will show the presence of air voids.

It is surprising that sufficient wet bond strength exists to form the claimed product, let alone form a product that exhibits required fiber tear attributes for end use applications.

Mafoti does not teach or even suggest use of a foamed polyvinyl acetate based adhesive to bond a wood composite to a high pressure laminate. The use of a foamed adhesive does provide a different product and is of patentable weight. The claimed invention is novel and non-obvious over the disclosure of Mafoti.

Reversal of the examiner's rejection of claims 12, 14-17, 21 and 22 as anticipated by or as obvious over Mafoti is requested.

D. The subject matter of claim 13 is not anticipated by, or obvious over, Mafoti et al. (U.S. Patent No. 5,804,618).

Claim 13 is also rejected as being anticipated by or, in the alternative, as being obvious over Mafoti.

Along with claims 12, 14-17, 21 and 22, the examiner urges that the subject matter of claim 13, which requires use of a foamed adhesive that is foamed from about 20 to about 60% by volume, contains a process limitation that carries no patentable weight unless shown to produce a different product. It is the examiner's position that applicants' arguments that use of a foamed adhesive produce a patentable distinct product is not convincing of patentability since applicants have failed

to provide factual support to the allegations presented.

Applicants disagree. Applicants submit that use of an adhesive that has been foamed to from about 20 to about 60 % by volume does produce a patentable distinct product. As disclosed in the subject application, a product prepared using a foamed adhesive unexpectedly results in a product that has the same strength, yet requires less adhesive. Mafoti neither discloses nor suggest an adhesive foamed to from about 20 to about 60 % by volume and used to bond a wood composite to a high pressure laminate in the manufacture of products such as, for examples countertops. A product prepared using an amount of wet adhesive is clearly different than a product prepared using 20 to 60 % less adhesive, e.g., using an adhesive foamed from 20 to 60 % by volume. The product is not only different when it is newly made, i.e. - a newly laminated product will be less wet, but will be different after the adhesive has fully dried, i.e., - the final dry product will contain less adhesive residue and will show the presence of air voids in through out the dried adhesives. Reference is again made to the disclosures set forth on page 1, lines 15-16, page 3, lines 4-9, Table 1, and the disclosure on page 9, lines 6-8 of the subject application (reproduced hereinabove).

There is no disclosure in Mafoti of an article comprising a wood composite and a high pressure laminate bonded together with a foamed polyvinyl acetate based adhesive that has been foamed from about 20 to about 60 % by volume. The product when newly bonded will contain less water/less adhesive - minimizing warping. The final fully dried product will comprise less adhesive residue and, upon inspection, will show the presence of air voids.

It is surprising that sufficient wet bond strength exists to form the claimed product, let alone

form a product that exhibits required fiber tear attributes for end use applications.

Mafoti does not teach or even suggest use of a polyvinyl acetate based adhesive foamed from about 20 to about 60 % by volume to bond a wood composite to a high pressure laminate. The use of such a foamed adhesive does provide a different product and is of patentable weight. The invention of claim 13 is novel and non-obvious over the disclosure of Mafoti.

Reversal of the examiner's rejection of claim 13 as anticipated by or as obvious over Mafoti is requested.

E. The subject matter of claim 18 is not obvious over Karszes (U.S. Patent No. 3,891,788) in view of Mafoti et al. (U.S. Patent No. 5,804,618).

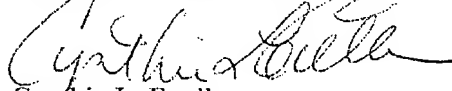
Claim 18 is rejected as being obvious over Karszes in view of Mafoti et al.

Claim 18 is directed to a countertop comprising a wood composite and a high pressure laminate. Neither of the Karszes or Mafoti patents alone, or in combination, disclose a countertop in which a wood composite and high pressure laminate are bonded together with a foamed adhesive. The countertop of claim 18 is disclosed or suggested by the combined disclosures of Karszes and Mafoti. The countertop when newly bonded will contain less water/less adhesive - minimizing warping. The final fully dried product will comprise less adhesive residue and, upon inspection, will show the presence of air voids.

Applicants submit that claims 12-18, 21 and 22 are patentable over the cited prior art rejections of record. The Board is respectfully requested to reverse the decision of the examiner

finally rejecting all pending claims.

Respectfully submitted,



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August 2, 2007

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Claim appendix

Claim 12. An article of manufacture comprising a wood composite and a high pressure laminate, wherein the wood composite is bonded to the high pressure laminate using a foamed adhesive comprising at least one polyvinyl acetate emulsion.

Claim 13. The article of claim 12 where the foamed adhesive is foamed from about 20 to about 60% by volume.

Claim 14. The article of claim 12 wherein the foamed adhesive comprises a blend of at least two polyvinyl acetates.

Claim 15. The article of claim 14 wherein the foamed adhesive further comprises a polysaccharide filler.

Claim 16. The article of claim 15 wherein the polysaccharide is a starch.

Claim 17. The article of 16 wherein the foamed adhesive further comprises an additive selected from the group consisting of a surface active agent, a defoamer, a preservative and a

UV indicator.

Claim 18. The article of claim 17 which is a countertop.

Claim 21. The article of claim 14 wherein the foamed adhesive comprises at least one polyvinyl acetate prepared by batch polymerization and at least one polyvinyl acetate prepared by continuous polymerization.

Claim 22. The article of claim 12 wherein the foamed adhesive comprises from about 55 to about 85% of said at least one polyvinyl acetate emulsion and from about 5 to about 20% of a filler.

Related proceedings appendix

NONE

Evidence appendix

NONE